# DATAPORT CHANNEL UNITS
# OPTION SELECTION AND INSTALLATION

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## 1. GENERAL

1.01 This Section describes selection of the D448 dataport channel unit options and installation of the channel units.

1.02 Whenever this Section is reissued, the reasons for reissue will be listed in this paragraph.

1.03 Selectable options are provided by screw-down option blocks or slide switches. All options are located on the component side of the dataport printed circuit boards (PCBs) and are accessible only when the unit is removed from the multiplex shelf.

1.04 An option screw is selected by turning the option screw fully clockwise (down) until the underside of the screw head makes firm contact with the two metal pins extending through the option block. Option screws that are not selected should be turned counterclockwise (up) 1-1/2 turns from the selected position. To prevent loss and permit future adaptation of the unit to other applications, complete removal of the option screws is not recommended. Slide switch options are selected by setting the slide switch to the IN or ON position (toward the option marking on the PCB).

***WARNING: Too much torque on an option screw can split the option block. When selecting an option, care should be taken to make firm contact between the screw head and metal pins, without applying excessive torque to the option screw.***

## 2. DATAPORT CHANNEL UNIT OPTIONS

### OIU/DDS

2.01 The OIU/DDS dataport has four customer-selected timing options. The unit will phase-lock:

(a) The transmit clocks of both digroups to the receive clock of the A digroup by selecting option screw [A] (loop timing mode);

(b) The transmit clocks of both digroups to the receive clock of the B digroup by selecting option screw [B] (loop timing mode);

(c) The transmit clocks of both digroups to an external office clock by selecting option screw [DDS] (DDS clock timing mode); and

(d) The transmit clock of the A digroup to the transmit clock of the B digroup by selecting option screw [LOC] (master oscillator timing mode).

2.02 Two screw-down options allow the unit to be configured for differing D448 modes of operation. Option screw [T1], when selected, configures the unit for Mode 2 or 3 operation. Option screw [T1C], when selected, configures the unit for Mode 1 operation.

***CAUTION: Option screws [T1] and [T1C] should never both be selected or improper operation of the unit will result.***

### DS0DP

2.03 The 628340 DS0DP is equipped with a slide switch to allow the subrate error correction feature to be disabled. The ERROR CORRECTION switch (S1) is located on the main PCB of the unit, and the unit is shipped with this switch OFF (not selected).

2.04 The 628342 DS0DP is equipped with two slide switches which enable/disable 56.0-kb/s error correction (S1) or subrate error correction (S2). The Groups -001 and -003 units are shipped with S1 in the OUT position and S2 in the ON position (subrate error correction only). The Groups -004 and -006 units are shipped with S1 in the IN position and S2 in the ON position (subrate and 56.0-kb/s error correction enabled).

***CAUTION: The 628342, Groups -001 and -003, unit must have switch S1 in the OUT position (56.0-kb/s error correction disabled) or system malfunction will result.***

### OCUDP

**2.05** The OCUDP is equipped with two screw-down options which allow the unit to be configured for differing applications. The [CSU] option screw provides the ability to configure the OCUDP for use with a customer having a channel service unit (CSU) at his location. The unit is shipped with this option screw in the DOWN position for operation with a data service unit (DSU).

**2.06** The [CRTC] (customer remote test control) option screw allows the user to determine whether or not the OCUDP provides control code mapping for DSU loopback codes. This option is provided for future applications, and the unit is shipped with this option in the UP position.

**2.07** The 628356 OCUDP is equipped with a slide switch to allow the error correction feature to be disabled. The ERROR CORRECTION switch (S1) is located on the main PCB of the unit, and the unit is shipped with this switch in the OUT (not selected) position.

***CAUTION: For the Group -001 and -003 units, S1 must remain in the OUT position or system malfunction will result.***

## 3. OPTION SELECTION

**3.01** Tables A through E and Fig. 1 through 5 show channel unit options and option locations for all standard D448 dataport channel units. Refer to Sections ITTR-18-440 and ITTR-18-441 for option selection procedures for other D448 channel units.

## 4. INSTALLATION

### GENERAL

**4.01** After all options have been selected on a channel unit, the unit may be inserted into its assigned slot in the multiplex shelf. At this time, the channel is ready to be placed into service. However, if it is necessary to perform tests on the channel to meet local requirements, this testing should be performed at this time. Testing procedures for dataport channel units are provided in Section ITTR-18-451.

### OIU/DDS

***Note:*** If the OIU/DDS will not act as external clock source for other OIU/DDS units *and* the OIU/DDS is optioned for *either* master clock *or* loop timing mode, no installation wiring is necessary.

**4.02** If the OIU/DDS is optioned for *either* master clock *or* loop timing mode *and* is being used to drive one or more OIU/DDS units, make connections from main OIU/DDS unit to other units as shown in Fig. 6.

**4.03** If the OIU/DDS is optioned for external office clock, make connections as shown in Fig. 6.

**TABLE A**

**OIU/DDS, 628095, OPTIONS**

| OPTION SCREW | | | | DESCRIPTION | FUNCTION |
|---|---|---|---|---|---|
| [A] | [B] | [DDS] | [LOC] | | |
| DN | UP | UP | UP | Phase-locks the transmit clocks of both digroups to the receive clock of the A digroup. | Loop Timing Mode A |
| UP | DN | UP | UP | Phase-locks the transmit clocks of both digroups to the receive clock of the B digroup. | Loop Timing Mode B |
| UP | UP | DN* | UP | Phase-locks the transmit clocks of both digroups to an external office clock. | DDS Clock Timing Mode |
| UP | UP | UP | DN | Phase-locks the transmit clock of the A digroup to the transmit clock of the B digroup. | Master Oscillator Mode |
| [T1] | | [T1C] | | | |
| DN* | | UP | | Configures unit for D448 Mode 2 or 3 operation. | D448 Mode Selection |
| UP | | DN | | Configures unit for D448 Mode 1 operation. | |

*Option is factory-selected.

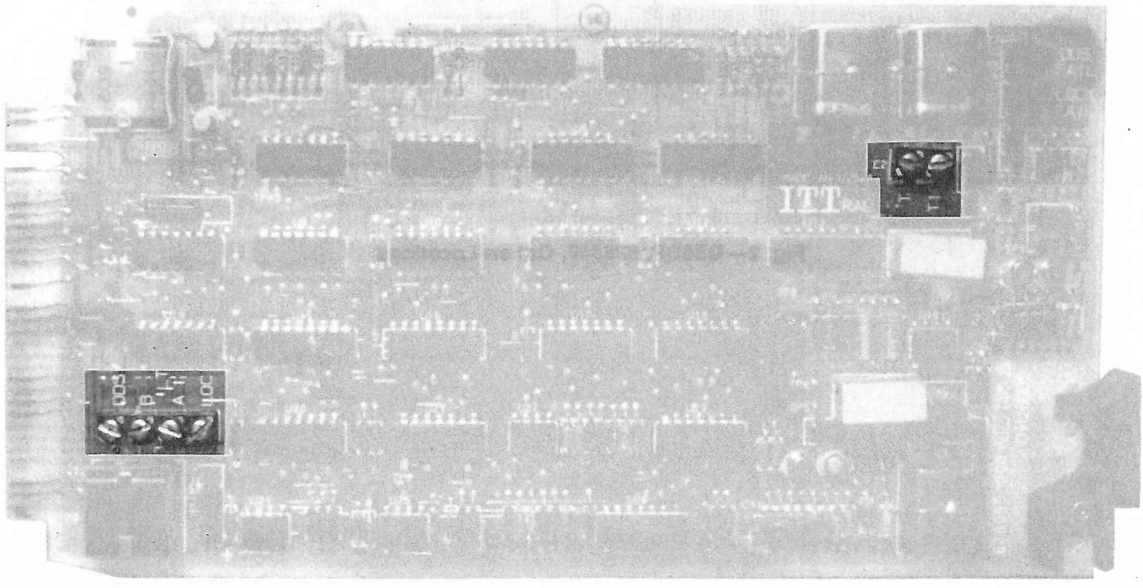



**Fig. 1—OIU/DDS, 628095, Option Locations**

**TABLE B**

**DS0DP, 628340, OPTIONS**

| OPTION SWITCH | DESCRIPTION | FUNCTION |
|---|---|---|
| S1 | | |
| ON | DS0DP performs subrate error correction. | Error Correction |
| OFF* | DS0DP does not perform subrate error correction. | |

*Unit is shipped with switch in the OFF position.

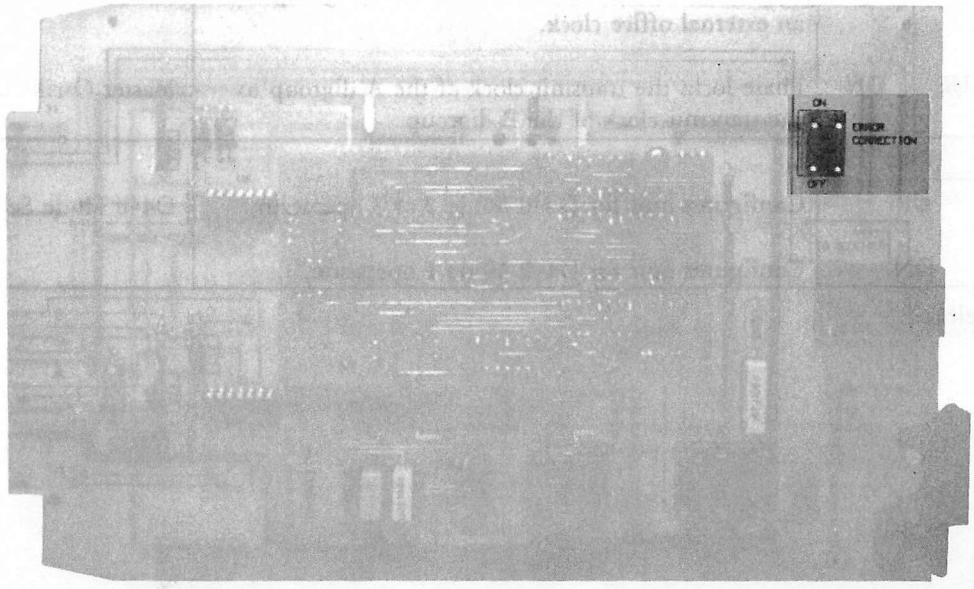



**Fig. 2—DS0DP, 628340, Option Locations**

**TABLE C**

**DS0DP, 628342, OPTIONS**

| OPTION SWITCH | DESCRIPTION | FUNCTION |
|---|---|---|
| S1* | | |
| IN | DS0DP performs 56.0 kb/s error correction. | 56.0 kb/s Error Correction |
| OUT | DS0DP does not perform 56.0 kb/s error correction. | |
| S2 | | |
| ON† | DS0DP performs subrate error correction. | Subrate Error Correction |
| OFF | DS0DP does not perform subrate error correction. | |

*Unit is shipped with switch in the OUT position on Groups -001 and -003, and switch in the IN position on Groups -004 and -006.

***CAUTION: Option switch S1 should always be in the OUT position for Groups -001 and -003 DS0DPs or system malfunction will result.***

†Unit shipped with switch in ON position.

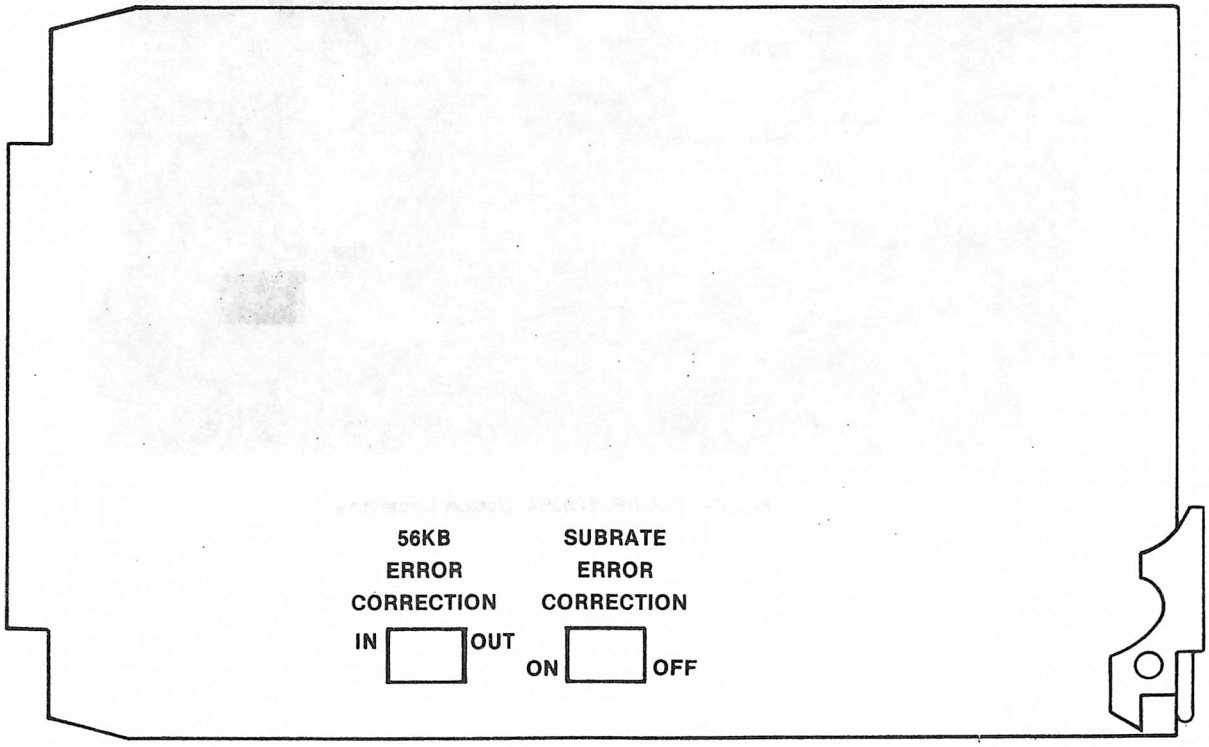



**Fig. 3—DS0DP, 628342, Option Locations**

**TABLE D**

**OCUDP, 628350, 628352, AND 628354, OPTIONS**

| OPTION SCREW | DESCRIPTION | FUNCTION |
|---|---|---|
| [CSU] | | |
| DN* | Configures OCUDP for use with DSU. | Selects operation for various customer station equipment |
| UP | Configures OCUDP for use with CSU. | |
| [CRTC] | | |
| UP* | OCUDP provides control code mapping. | Control Code Mapping |
| DN | OCUDP does not provide control code mapping. | |

*Option is factory-selected.

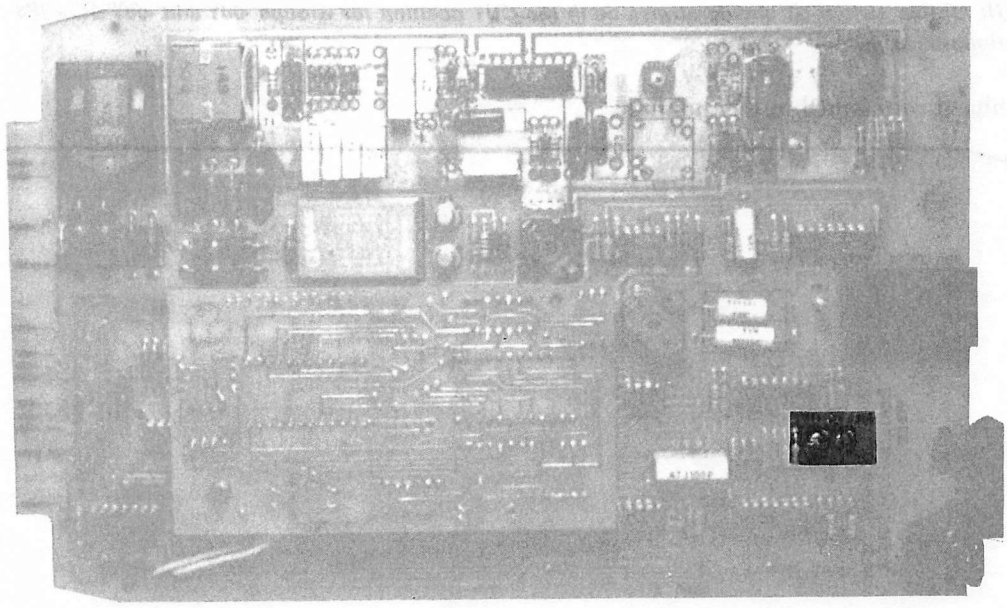


**Fig. 4—OCUDP, 628354, Option Locations**

**TABLE E**

**OCUDP, 628356, OPTIONS**

| OPTION | DESCRIPTION | FUNCTION |
|---|---|---|
| [CSU] | | |
| DN* | Configures OCUDP for use with DSU. | Selects operation for various customer station equipment |
| UP | Configures OCUDP for use with CSU. | |
| [CRTC] | | |
| UP* | OCUDP provides control code mapping. | Control Code Mapping |
| DN | OCUDP does not provide control code mapping. | |
| S1 | | |
| IN | OCUDP performs error correction. | Error Correction |
| OUT* | OCUDP does not perform error correction. | |

*Option is factory-selected.

***CAUTION: Option switch S1 should always be in the OUT position for Groups -001 and -003 OCUDP or system malfunction will result.***

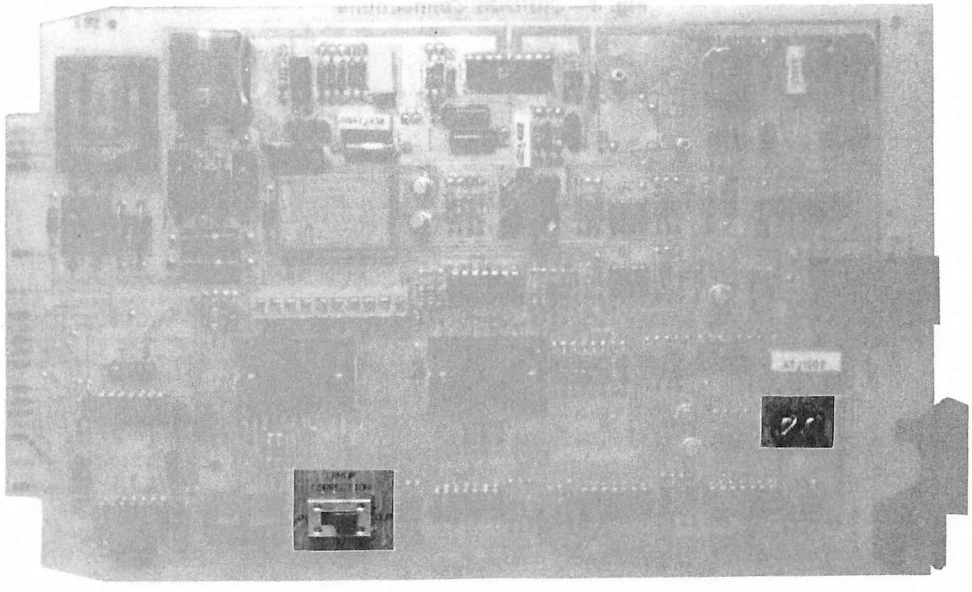
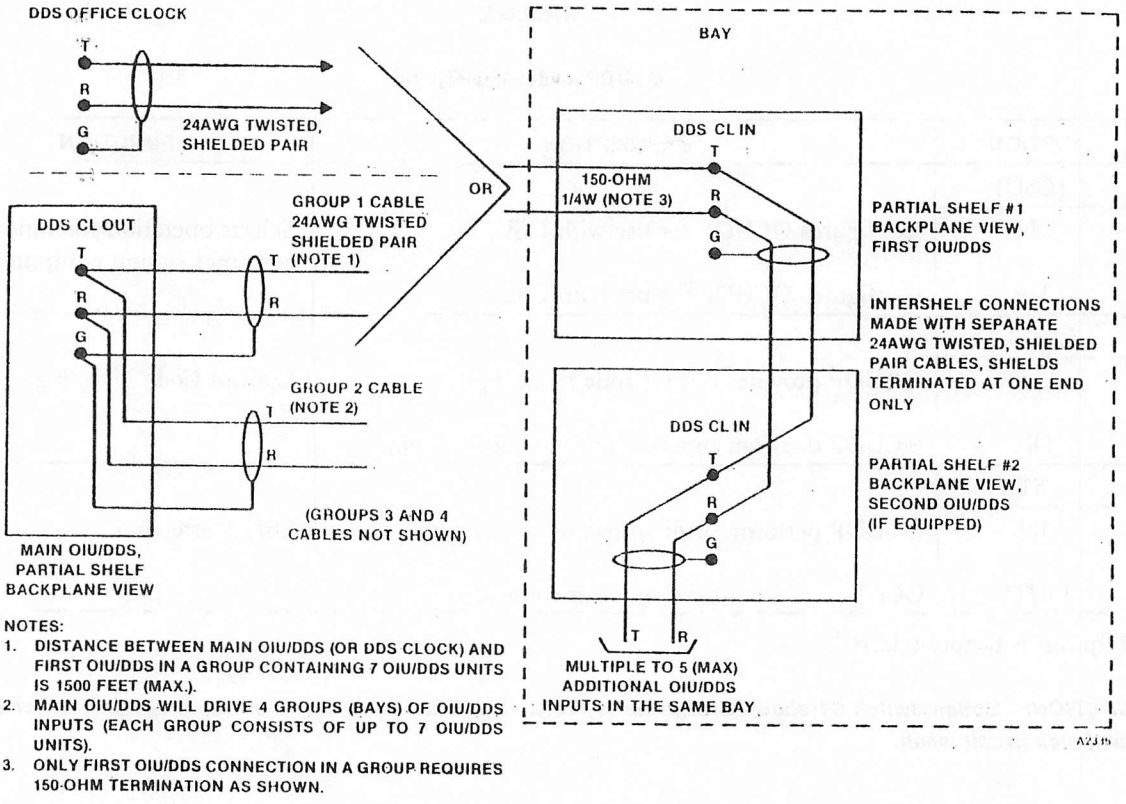


**Fig. 5—OCUDP, 628356, Option Locations**




NOTES:
1. DISTANCE BETWEEN MAIN OIU/DDS (OR DDS CLOCK) AND FIRST OIU/DDS IN A GROUP CONTAINING 7 OIU/DDS UNITS IS 1500 FEET (MAX.).
2. MAIN OIU/DDS WILL DRIVE 4 GROUPS (BAYS) OF OIU/DDS INPUTS (EACH GROUP CONSISTS OF UP TO 7 OIU/DDS UNITS).
3. ONLY FIRST OIU/DDS CONNECTION IN A GROUP REQUIRES 150-OHM TERMINATION AS SHOWN.

**Fig. 6—OIU/DDS Connections**